

Work Order ID 127441

December-17-14 1:24:27 PM

127441

Page 1

Item ID: D412-705-017

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: N1 Gearbox Access Panel

Start Date: 12/15/14 Start Qty: 3.00

3

Cust Item ID:

Required Date: 12/19/14 Req'd Qty: 3.00

3

Customer:

Reference:

Approvals:

Process Plan: MW

Date: 14-12-22 Tooling:

Date:

Run Start

NR1

QC:

Date: SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3255

Rev B

IIN-D412-705

E

MCS 14-12-23

100

Document Control

0.00

100

DC

Doc.Control -USB or Paperwork

DOCUMENT CONTROL

Memo M.L.O.

0.00

Photocopy bluefile & type labels per PPP D412-705-017

CHG001

DAS

43

JAN 06 2015

2x

110

Pick Kit

0.00

110

Packaging

Packaging

Memo

0.00

2x

DAS

28

9-89

DEC 22 2014



DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 127441

127441

Page 2

December-17-14 1:24:27 PM

Item ID: D412-705-017 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: N1 Gearbox Access Panel
 Start Date: 12/15/14 Start Qty: 3.00 ***3*** Cust Item ID:
 Required Date: 12/19/14 Req'd Qty: 3.00 ***3*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC4- 100% Inspect kits for completeness Memo	0.00 0.00				<u>2*</u>	DAS ES 9-89	JAN 06 2015	
130 *130* Packaging Packaging	Packaging Memo Identify and pack for shipping as per PPP D412-705-017 Location: <u>04</u> PPP Rev: _____	0.00 0.00				<u>2</u>	DAS ES 9-89	JAN 06 2015	
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00				<u>MCS</u>	<u>15-01-07</u>		

(Handwritten signature) 15-1-6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td style="width: 25%;">Skid-tube ☐</td> <td style="width: 25%;">Crosstube ☐</td> <td style="width: 25%;">Water Jet ☐</td> <td style="width: 25%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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December-17-14 1:24:26 PM

127441

D412-705-017

Required Date: 12/19/14

Required Qty: 3.00

Comments: IPP Rev:C Removed Manufacturing 06-08-02 JLM
IPP Rev:D ECN 1052 07-11-06 DD verified by: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN3C3A		Purchased	No			110	Each	405.0000	30	9060			
AN3C3A Bolt DAS 46 9-89											** DAS 28 9-89	DEC 22 2014	
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				GA				81					
				122141				6					
				124417				75					
				ST350				324					
				124417				324		60			
D3255-041		Manufactured	No			110	Each	6.0000	1	32			
D3255-041 Access Panel Assy LH DAS 46 9-89											** DAS 28 9-89		
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST495				6					
				111539				2					
				115781				2					
				117046				2		2			
D3255-042		Manufactured	No			110	Each	4.0000	1	32			
D3255-042 Access Panel Assembly DAS 46 9-89											** DAS 28 9-89		
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST498A				4					
				116873				4		2			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design ☐									
Doc/Data ☐									
Equip/Tooling ☐									
Handling/Pre ☐									
Material ☐									
Operator ☐									
Offset/Setup ☐									
Process ☐									
Supplier ☐									
Training ☐									
Transport ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

December-17-14 1:24:26 PM

Page 2

Work Order ID: 127441

Parent Item: D412-705-017

Parent Item Name: N1 Gearbox Access Panel

127441

D412-705-017

Start Date: 12/15/14

Required Date: 12/19/14

Start Qty: 3.00

Required Qty: 3.00

MS20427M3-3

Purchased

No

110

Each

1,941.000

36

10872

MS20427M3-3

Rivet

DAS

46

9-89

**

DAS

28

9-89

DEC 22 2014

Location

Loc Qty

Loc Code

GA

109

m129864

109

ST311

1832

m130922

1832

MS21060-L3K

Purchased

No

110

Each

45.0000

18

72

MS21060-L3K

Nut Plate

DAS

46

9-89

**

DAS

28

9-89

Location

Loc Qty

Loc Code

GA

42

m127836

42

ST302

3

m127836

3

MS9321-09

Purchased

No

110

Each

60.0000

30

9060

MS9321-09

Washer

DAS

46

9-89

**

DAS

28

9-89

Location

Loc Qty

Loc Code

ST273

60

m130358

60

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
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Equip/Tooling									
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Unapproved									

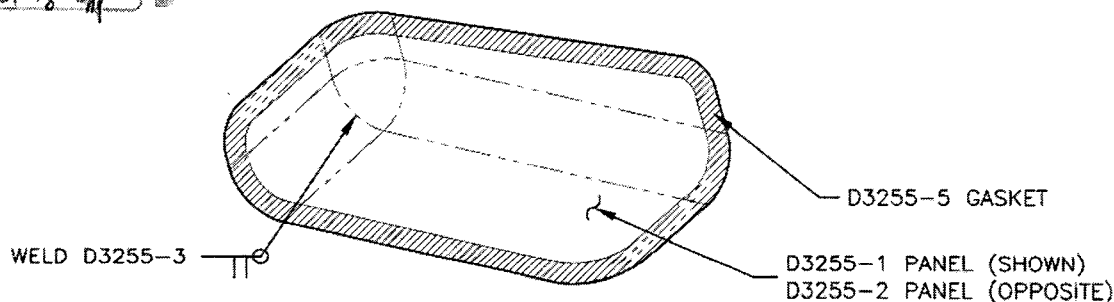
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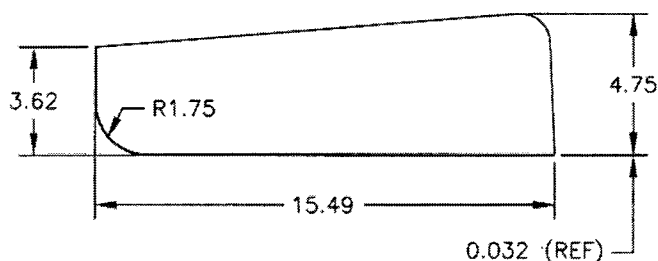
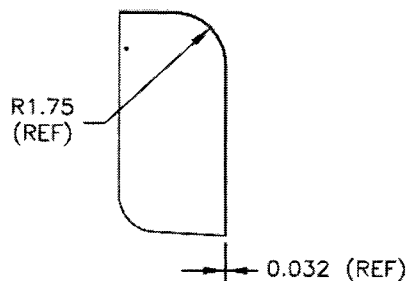
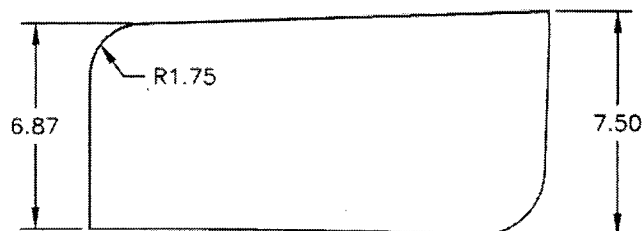


DESIGN T#	DRAWN BY T#	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED UP	APPROVED T#	DRAWING NO. D3255	REV. B SHEET 1 OF 4
DATE 04.12.06		TITLE ACCESS PANEL ASSEMBLY	SCALE 1:6
A	04.01.27	NEW ISSUE	
B	04.12.06	D3255-3 REDESIGN; ADDED Ø0.098	

RELEASED
05-01-18 #



D3255-041 ACCESS PANEL (SHOWN)
D3255-042 ACCESS PANEL (OPPOSITE)



D3255-1 BEND DETAIL
D3255-2 OPPOSITE

D3255-041/-042 NOTES:

- 1) WELD PER DART QSI 004
- 2) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER QSI 005 4.3
- 3) INSTALL D3255-5 GASKET USING DOW CORNING P/N 736 ADHESIVE IN ACCORDANCE WITH MANUFACTURE'S INSTRUCTIONS
- 4) IDENTIFY WITH P/N & B/N USING FINE POINT PERMANENT MARKER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO 123541 M15
14-12-22

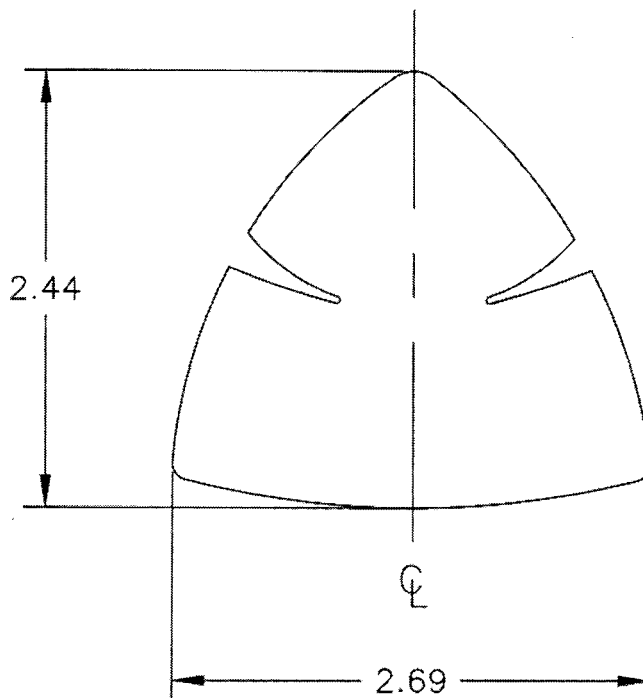
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DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED JP	APPROVED [Signature]	DRAWING NO. D3255	REV. B SHEET 2 OF 4
DATE 04.12.06		TITLE TITLE	SCALE 1:1

RELEASED
05.01.08 [Signature]



D3255-3 CAP
FORM TO FIT D3155-1/-2

D3255-3 NOTES:

- 1) MATERIAL: AISI 304/316 SS 0.032 THICK (REF. M304S22GA)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) MAKE PER DRAWING "D3255-B2.DWG"

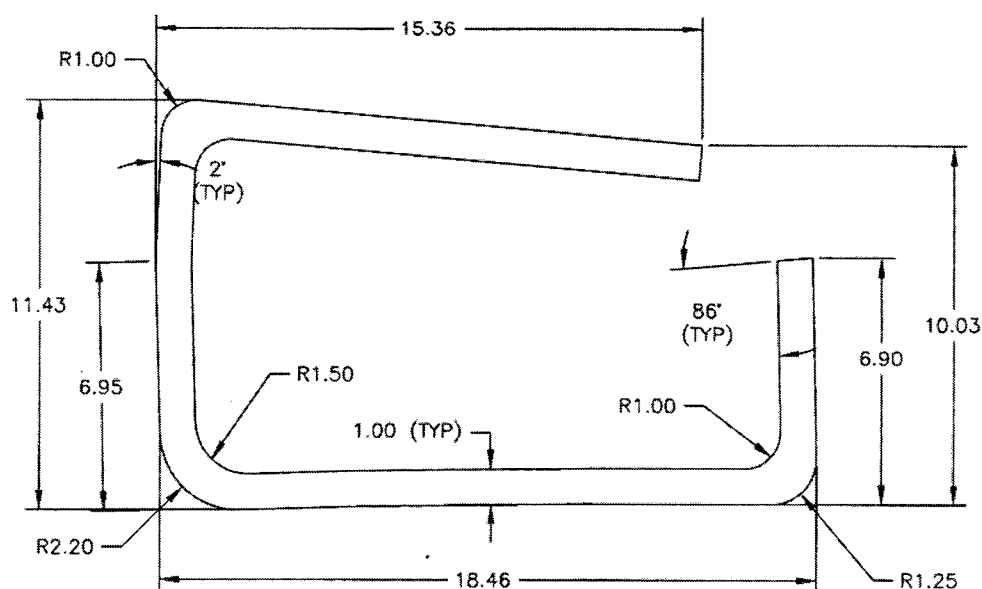
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DESIGN IT	DRAWN BY IT	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED UP	APPROVED IT	DRAWING NO. D3255	REV. B SHEET 4 OF 4
DATE 04.12.06		TITLE ACCESS PANEL ASSEMBLY	SCALE 1:5

RELEASED
DS 01.18 #



D3255-5 GASKET

D3255-5 NOTES:

- 1) MATERIAL: SILICONE COATED FIBERGLASS CLOTH PER AMS 3320F
P/N SIL/F 36x36x1/16
POSSIBLE SUPPLIER: AVIALL
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

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REFERENCE ONLY

DART AEROSPACE LTD.

IIN-D412-705

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DAS
46
9-89

JAN 06 2015

5.0 PARTS LIST

Qty -011	Qty -013	Qty -015	Qty -017	Qty -019	Qty -021	Qty -023	Part Number	Description
X							D412-705-011	TWIN PAK E-Z ACCESS KIT
1	X						D412-705-013	INTAKE PLENUM ACCESS PANEL KIT
1		X					D412-705-015	DRIVESHAFT TUNNEL MODIFICATION KIT
1			X				D412-705-017	N1 GEARBOX ACCESS PANEL KIT
1				X			D412-705-019	C-BOX OIL COOLER LINE SUPPORT ACCESS KIT
1					X		D412-705-021	OIL PRESSURE TRANSMITTER ACCESS KIT
1						X	D412-705-023	OIL COOLER SUPPORT REMOVABLE LOWER PANEL KIT
	1						D3245-041	ACCESS PANEL ASSEMBLY, LH
	1						D3245-042	ACCESS PANEL ASSEMBLY, RH
	2						D3245-043	DOOR ASSEMBLY
	2						D3245-9	GASKET
	2						D3245-11	GASKET
	2						D3245-13	GASKET
			1				D3255-041	ACCESS PANEL ASSEMBLY, LH
			1				D3255-042	ACCESS PANEL ASSEMBLY, RH
		1					D3256-1	ACCESS PANEL
		1					D3256-3	GASKET
				1			D3259-041	ACCESS PANEL ASSEMBLY, LH
				1			D3259-042	ACCESS PANEL ASSEMBLY, RH
					1		D3307-041	ACCESS PANEL ASSEMBLY
						30	AN3-3A	BOLT
		22	30		6		AN3C-3A	BOLT
		3					AN3C-4A	BOLT
						30	AN960JD10	WASHER
	16	44	36		12		MS20427M3-3	RIVET
						2	MS21051-L3K	NUT PLATE
	8	22	18		6		MS21060-L3K	NUT PLATE
						18	MS21069-L3K	NUT PLATE
		25	30		6		MS9321-09	WASHER

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Revision: E
Date: 13.10.07